

Docket	:	<u>A.17-11-009</u>
Exhibit Number	:	<u>ORA-08</u>
Commissioner	:	<u>C. Rechtschaffen</u>
ALJ	:	<u>S. Roscow</u>
Witness	:	<u>G. Ezekwo</u>



**OFFICE OF RATEPAYER ADVOCATES  
CALIFORNIA PUBLIC UTILITIES COMMISSION**

**The Office of Ratepayer Advocates'  
Report on  
Pacific Gas and Electric Company's  
Cost of Service and Rates for Gas  
Transmission and Storage  
Services for the Period 2019 - 2021**

**Chapter 8: Corrosion Control**

San Francisco, California  
June 29, 2018

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1 **I. INTRODUCTION**

2 This exhibit presents the analyses and recommendations of the Office of  
3 Ratepayer Advocates (ORA) regarding Pacific Gas and Electric Company's (PG&E)  
4 corrosion control for the Test Year (TY) 2019 General Transmission and Storage  
5 Proceeding (GT&S) rate case. This exhibit addresses PG&E's forecast of corrosion  
6 control expenses for TY 2019 and capital expenditures for 2019.

7 **II. SUMMARY OF RECOMMENDATIONS**

8 **A. Corrosion Control Expenses**

9 The following summarizes ORA's recommendations regarding Corrosion  
10 Control expenses:

- 11 • \$1.49 million in expense for 2019 Routine Corrosion Maintenance  
12 which is 68.7 percent of 2019 PG&E's proposed forecast of \$2.17  
13 million.
- 14 • \$1.55 million in 2019 expense for Alternating Current (AC) which is  
15 58.9 percent of 2019 PG&E's proposed forecast of \$2.63 million.
- 16 • \$1.41 million in 2019 expense for Close Interval Survey (CIS) which is  
17 25.8 percent of 2019 PG&E's proposed forecast of \$5.48 million.
- 18 • \$1.43 million in expense for 2019 Internal Corrosion, which is 59.8  
19 percent reduction from 2019 PG&E's forecast of \$3.56 million.

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1 Table 8-1 compares ORA's and PG&E's 2019 corrosion expense forecasts:

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**Table 8-1**  
**Corrosion Expenses for 2019**  
**(in Thousands of Nominal Dollars)**

<b>Description (a)</b>	<b>ORA Recommended (b)</b>	<b>PG&amp;E Proposed<sup>1</sup> (c)</b>	<b>Amount PG&amp;E&gt;ORA (d=c-b)</b>
Routine Corrosion Maintenance	\$1,494	\$2,174	\$680
Direct Current (DC) Interference	\$713	\$713	\$0
Alternating Current (AC) Interference	\$1,550	\$2,625	\$1,075
Casings	\$2,067	\$2,057	\$0
Cathodic Protection (CP)	\$4,401	\$4,401	\$0
Test Stations	\$257	\$257	\$0
Atmospheric Corrosion	\$11,501	\$11,501	\$0
Close Interval Survey (CIS)	\$1,407	\$5,476	\$4,069
Internal Corrosion	\$1,430	\$3,561	\$2,131
Corrosion Support	\$2,558	\$2,558	\$0
Standard Pacific Gas line, Inc. (StanPac) Expense	\$376	\$376	\$0
<b>Total</b>	<b>\$25,737</b>	<b>\$35,699</b>	<b>\$9,962</b>

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6 **B. Corrosion Capital**

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7 The following summarizes ORA's recommendations regarding Corrosion  
8 Capital Expenditures:

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- \$6.12 million in capital expenditures for 2019 Direct Current (DC) which is 50 percent of 2019 PG&E's proposed forecast of \$12.12 million.

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<sup>1</sup> PG&E 2019 GT&S Testimony, p. 8-11.

- 1 • \$8.55 million in 2019 capital expenditures for Alternating Current (AC)  
2 which is 65.8 percent of 2019 PG&E’s proposed forecast of \$13.01  
3 million.
- 4 • \$15.71 million in capital expenditures for 2019 Casings; this translates  
5 to a 35.7 percent reduction from 2019 PG&E’s forecast of \$24.41  
6 million.

7 Table 8-2 compares ORA’s and PG&E’s 2019 corrosion capital forecasts:

8 **Table 8-2**  
9 **Corrosion Capital For 2019**  
10 **(In Thousands of Nominal Dollars)**

Description	ORA Recommended	PG&E Proposed <sup>2</sup>	Adjustments
DC Interference	\$6,121	\$12,242	\$6,121
AC Interference	\$8,546	\$13,012	\$4,466
Casings	\$15,711	\$24,411	\$8,700
Cathodic Protection	\$13,646	\$13,646	\$0.0
Test Stations	-	-	-
Atmospheric Corrosion	\$2,803	\$2,803	\$0
Internal Corrosion	\$13,012	\$13,012	\$0
StanPac Capital	\$74	\$74	\$0
<b>Total</b>	<b>\$58,959</b>	<b>\$79,200</b>	<b>\$20,241</b>

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<sup>2</sup> PG&E 2019 GT&S Testimony, p. 8-12.

1 **III. DISCUSSION/ANALYSIS OF ROUTINE CORROSION**  
2 **MAINTENANCE**

3 **A. Expenses**  
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5 Routine monitoring is required to identify areas where problems exist and  
6 areas where problems develop.<sup>3</sup> Routine corrosion monitoring and maintenance  
7 compliance programs help protect PG&E's GT&S systems from corrosion.

8 PG&E forecasts approximately \$2.2 million of expenses in 2019 and this  
9 represents a 27 percent increase from 2016 recorded costs. Routine corrosion  
10 maintenance expenses have been increasing substantially from 2012 as shown in  
11 figure 8-1 below. PG&E asserts that the increase is due to increased CP Corrective  
12 Maintenance costs associated with CIS and Enhanced CP Criteria programs, increased  
13 CP Monitoring costs associated with monitoring additional test stations.

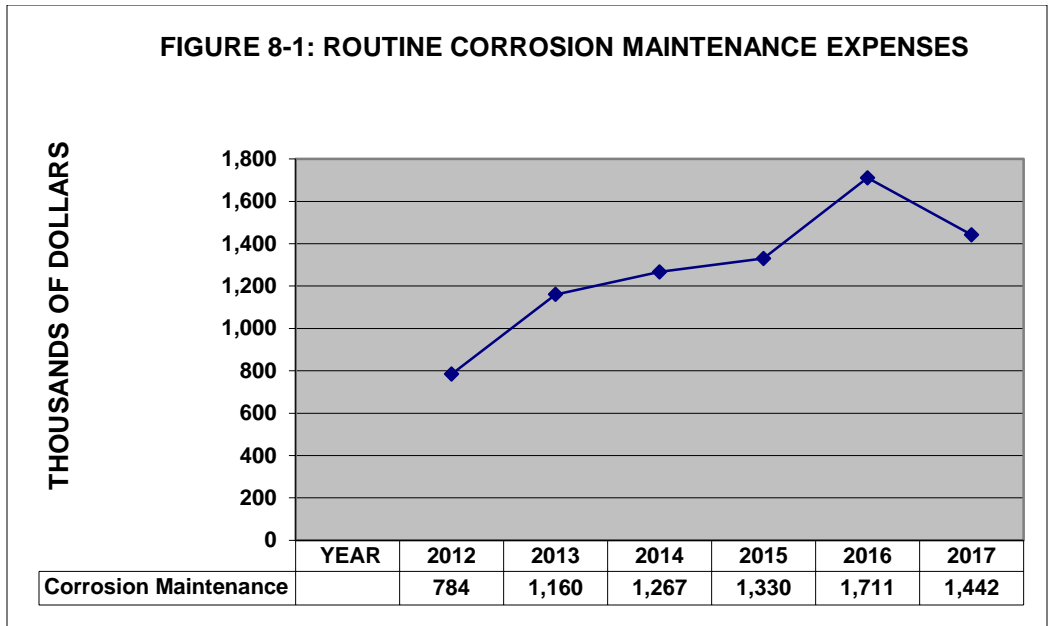
14 PG&E 2017 forecast of this expense is \$1.50 million. In response to ORA data  
15 request, PG&E provided a 2017 recorded expense of \$1.44 million.<sup>4</sup> This translates  
16 to 4 percent higher than forecasted amount.

17 Based on the increase of this expense category as depicted in figure 8-1, ORA  
18 recommends 2019 expense of \$1.49 million. This recommended amount is a three  
19 year average (2015 through 2017) of recorded expenses, which reflects the increased  
20 pace of work over those years.  
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<sup>3</sup> PG&E 2019 GT&S Testimony, p. 8-23.

<sup>4</sup> PG&E Response to DR\_ ORA\_035\_Q01Atch01\_Rev01\_Redacted.



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2 **IV. DISCUSSION/ANALYSIS OF DC INTERFERENCE**

3 DC interference occurs when DC currents in the earth utilize buried metallic  
 4 piping systems as part of their electrical circuit. The point at which the DC current  
 5 flows back to the earth may be subject to accelerated metal loss which could  
 6 compromise the integrity of the metallic piping system.<sup>5</sup> The expense component of  
 7 DC interference includes monitoring and engineering evaluation susceptibility and the  
 8 capital component of DC interference includes design and evaluation of systems to  
 9 mitigate the threats associated with dynamic DC interference.<sup>6</sup>

10 **A. Expenses**

11 PG&E forecasts approximately \$0.71 million of expenses in 2019 and this  
 12 represents only a 2 percent of PG&E’s 2019 proposed cost of \$35.7 million. Also the  
 13 PG&E 2019 proposed expense of \$0.7 million is 26 percent lower than 2017 recorded

<sup>5</sup> PG&E 2019 GT&S Testimony, p. 8-27.

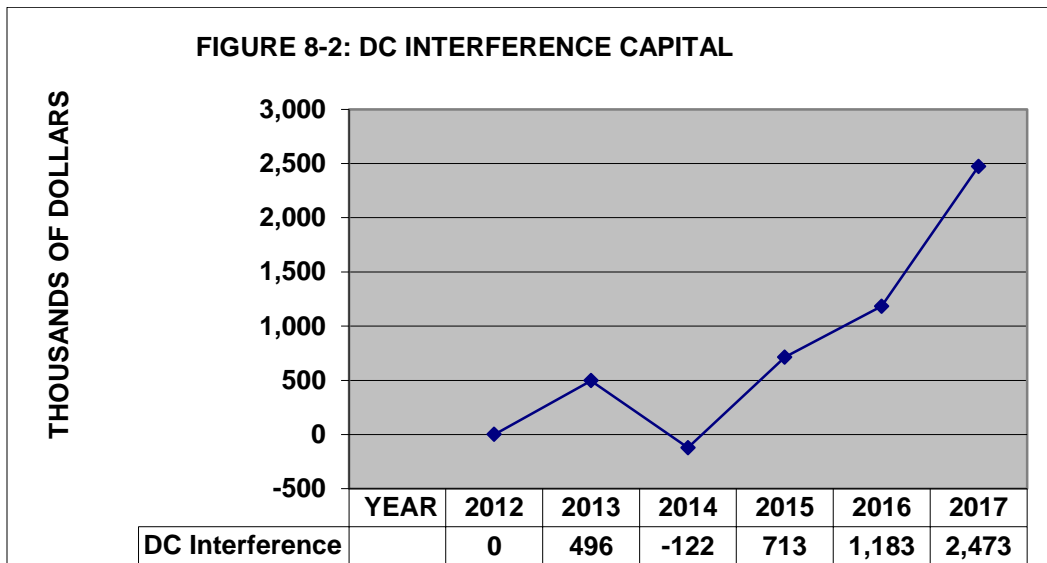
<sup>6</sup> PG&E 2019 GT&S Testimony, p. 8-28.

1 expense of \$0.96 million. ORA does not oppose PG&E's expense forecast for DC  
2 interference.

3 **B. Capital**

4 PG&E forecasts approximately \$12.2 million of capital expenditures in 2019,  
5 representing a nearly quintupled increase from 2017. Figure 8-2 shows the increasing  
6 expenditures from \$0.5 million in 2013 to \$2.5 million in 2017. PG&E's 2019  
7 forecast of \$12.2 million is about 500 percent more than PG&E's 2017 recorded  
8 amount of \$2.5 million. PG&E asserts that the substantial increase in expenditures is  
9 primarily due to threats and risks to the piping system. According to PG&E's  
10 testimony, piping installed in proximity to a CP system owned by another party may  
11 be susceptible to DC interference. Therefore, current from the foreign CP system  
12 could compromise the integrity of PG&E's transmission piping system. PG&E does  
13 not describe this new risk, of which PG&E was previously unaware. Based on this,  
14 ORA recommends \$6.1 million of capital expenditures in 2019; this amount is 104  
15 percent increase from PG&E's 2017 recorded amount of \$2.5 million.

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1 **V. DISCUSSION/ANALYSIS OF AC INTERFERENCE**

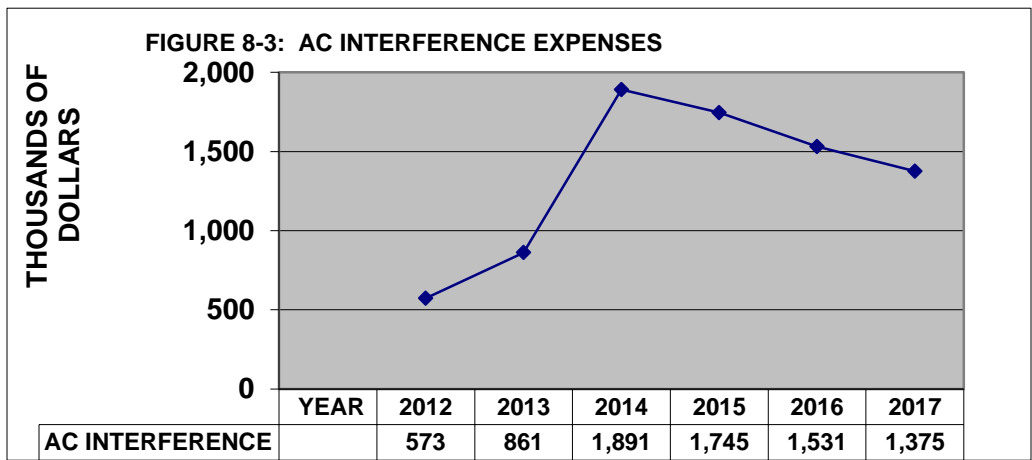
2 Stray Alternating Current (AC) along a gas line can cause or accelerate  
3 external pipeline corrosion. The expense component of AC interference includes:  
4 monitoring; field investigations; computer modeling; and engineering evaluation of  
5 site susceptibility. The capital component of AC interference includes the design and  
6 installation of grounding systems to mitigate threat to the piping systems.

7 **A. Expenses**

8 PG&E forecasts approximately \$2.6 million<sup>7</sup> of AC Interference expense in  
9 2019 representing a 190 percent increase from 2017. Figure 8-3 shows that the  
10 recorded expenses nearly tripled from \$0.57 million in 2012 to \$1.38 million in  
11 2017. However, this increase peaked in 2014.

12 As depicted in figure 8-3, PG&E’s AC interference expense has been slowly  
13 but steadily decreasing since the peak in 2014. ORA recommends a 2019 expense  
14 forecast of \$1.55 million. This recommended amount is based on the three-year  
15 average (2015 through 2017) of recorded expenses and this reflects a 24% increase  
16 above their 2017 recorded data.

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<sup>7</sup> PG&E 2019 GT&S Testimony, p. 8-26.

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**B. Capital**

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PG&E forecasts approximately \$13.01 million of AC Interference capital expenditures in 2019. Figure 8-4 shows the historical capital expenditures.

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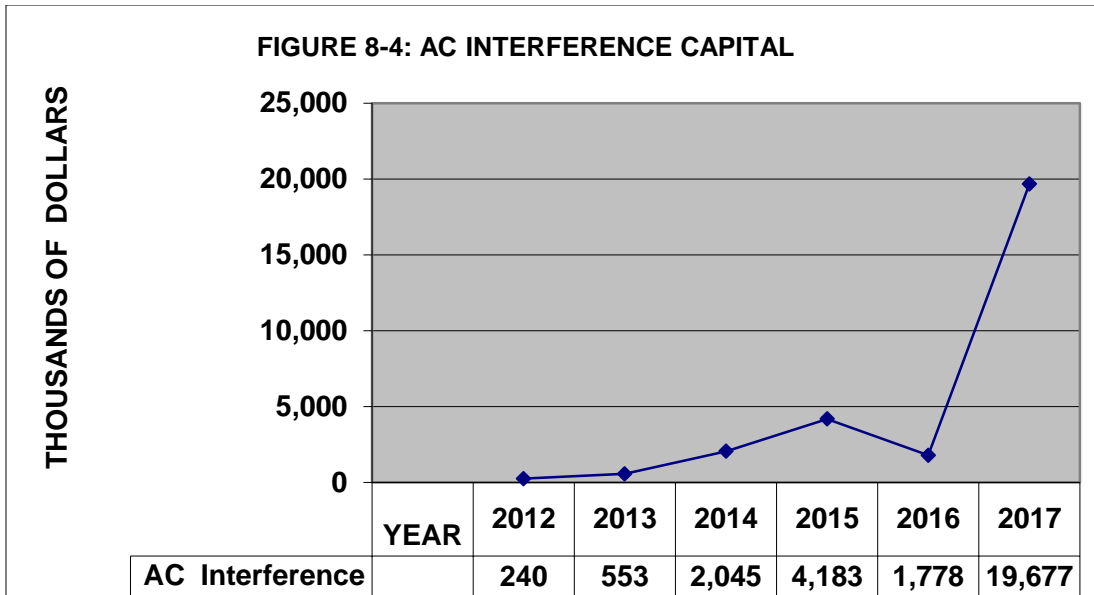
**Table 8-3**

**PG&E’s AC Interference Actual Capital Expenditures vs Authorized Amount<sup>9</sup>**  
**(In Thousands of Nominal Dollars)**

<b>Year</b>	<b>Authorized Amount</b>	<b>Actual Amount Spent</b>	<b>Authorized minus Actual</b>
2015	9,937	4,183	5,754
2016	10,166	1,778	8,388
2017	10,430	19,677	(9,247)
<b>Total</b>	<b>30,533</b>	<b>25,638</b>	<b>4,895</b>

<sup>8</sup> PG&E Response to ORA Oral002\_Q01Atch01.

<sup>2</sup> PG&E Response to ORA Oral002\_Q01Atch01.



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2 **VI. DISCUSSION/ANALYSIS OF CASINGS**

3 The loss of electrical isolation between a casing and a gas pipeline can divert  
 4 CP current from the gas pipeline and increase the risk of external corrosion.<sup>10</sup> The  
 5 most substantial portion of PG&E’s expense forecasts for corrosion control consists  
 6 of monitoring each cased pipeline crossing annually and taking remedial action to  
 7 mitigate the risk of external corrosion.

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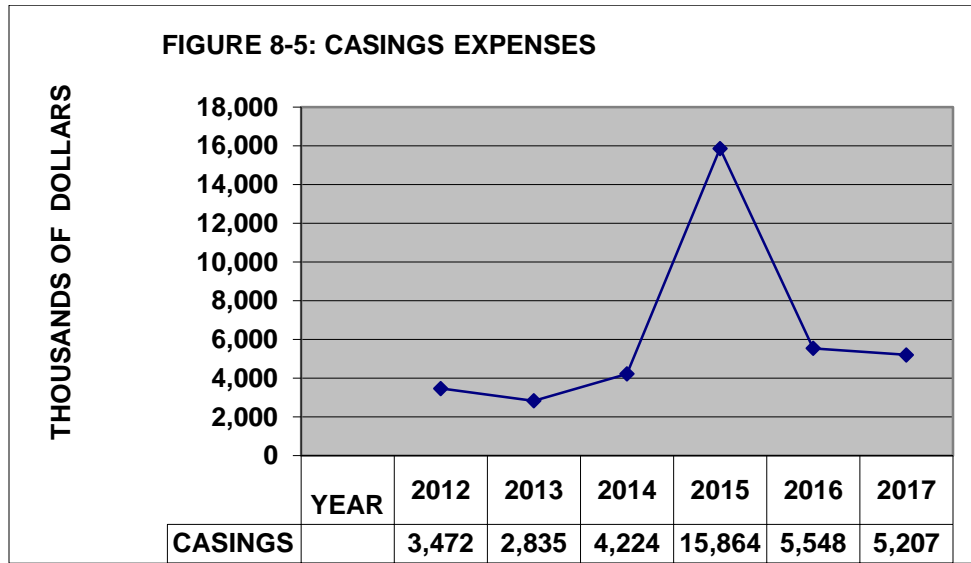
9 **A. Expenses**

10 PG&E forecasts \$2.06 million of casing expenses in 2019. This 2019 forecast  
 11 is 59.6 percent decrease from 2017 recorded expense of \$5.21 million.<sup>11</sup> With  
 12 exception of 2015 expense, the five-year historical average of \$4.26 is substantially  
 13 lower than the proposed PG&E’s 2019 forecast. ORA used the longer five-year  
 14 historical average because of the large increase solely in 2015. The historical  
 15 expenses are depicted in Figure 8-5. ORA does not oppose PG&E’s expense forecast.

<sup>10</sup> PG&E 2019 GT&S Testimony, p. 8-40.

<sup>11</sup> PG&E Response to DR\_ ORA\_035\_Q01Atch01\_Rev01\_Redacted.

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### B. Capital

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PG&E forecasts \$24.41 million of capital expenditures in 2019.<sup>12</sup> This represents a

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179 percent increase from 2016. Figure 8-6 shows that PG&E did not incur any

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expenditure for casing in 2017. PG&E asserts that contracted casing pipeline

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replacement will drive this increase. With the exception of 2015 recorded capital

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expenditures, PG&E's annual capital expenditures range from \$1.61 million in 2012

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to \$13.65 million in 2016. See Figure 8-6. ORA recommends 2019 capital

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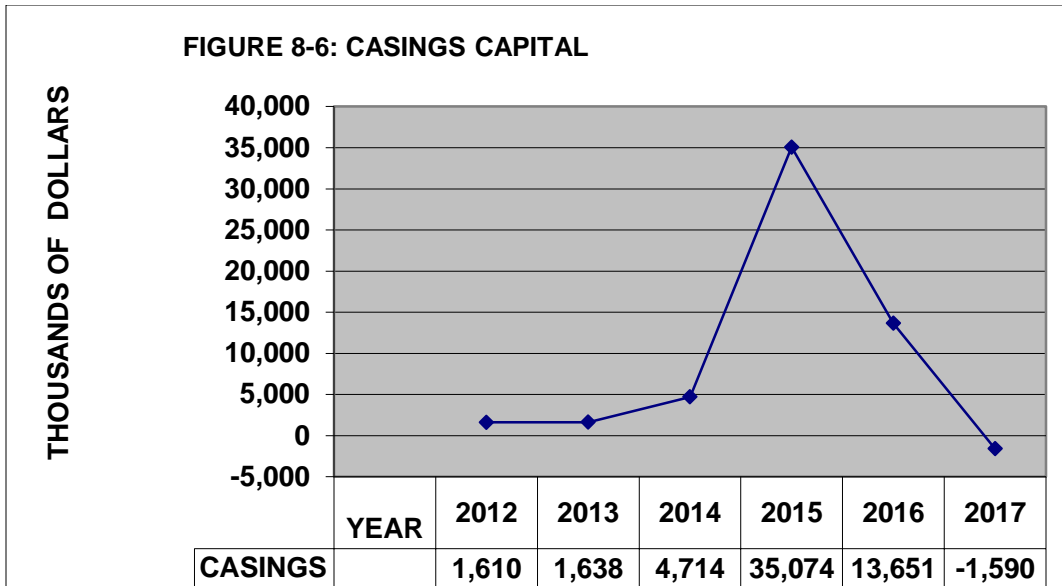
expenditures of \$15.7 million which is a three-year (2015 through 2017) of recorded

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capital expenditures.

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<sup>12</sup> PG&E 2019 GT&S Testimony, p. 8-40.



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2 **VII. DISCUSSION/ANALYSIS OF CATHODIC PROTECTION**

3 Cathodic Protection (CP) is the primary preventive measure used to mitigate  
 4 external corrosion of PG&E’s steel pipeline assets that are exposed to the atmosphere  
 5 and subject to atmospheric corrosion. CP system prevents corrosion in soil by  
 6 applying a direct current from an anode of the facility being protected. CP systems  
 7 cause the anode to corrode in the place of the metal pipeline. The U.S. Department of  
 8 Transportation’s (U.S.DOT) Pipeline and Hazardous Materials Safety Administration  
 9 (PHMSA) requires that all buried or submerged gas pipelines installed after July 31,  
 10 1971 have CP systems. PHMSA further requires that CP systems be monitored  
 11 regularly and that appropriate records be kept for the lifetime of the pipeline.<sup>13</sup>

12 **A. Expenses**

13 PG&E forecasts \$4.40 million of CP expenses in 2019.<sup>14</sup> This 2019 forecast is  
 14 92.1 percent increase from 2017 recorded expense. Figure 8-7 shows CP expenses

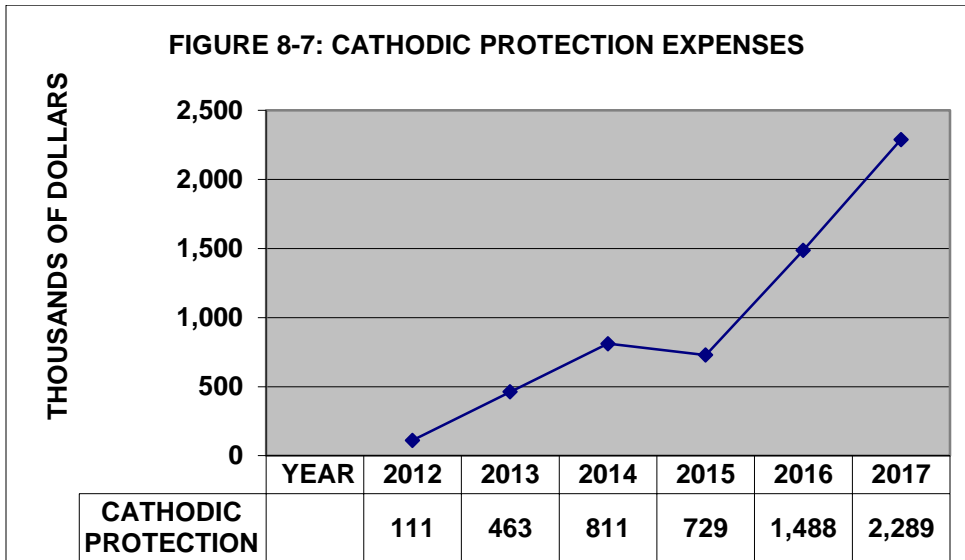
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<sup>13</sup> 49 CFR 192.491.

<sup>14</sup> PG&E 2019 GT&S Testimony, p. 8-48.

1 increased substantially from \$0.11 million in 2012 to \$2.29 million in 2017. Based on  
 2 increasing trend of the historical expenses, ORA does not oppose PG&E 's expense  
 3 forecast for cathodic protection.

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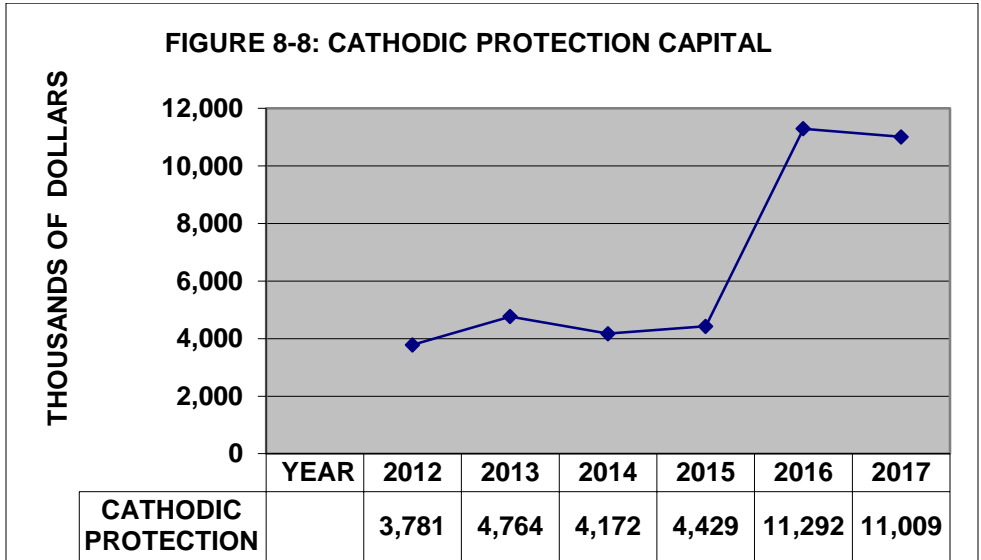
7 **B. Capital**

8 PG&E forecasts \$13.65 million of capital expenditures in 2019. The capital  
 9 expenditures for 2012 through 2015 were relatively flat at around \$4 million as  
 10 demonstrated in Figure 8-8. However, the expenditures nearly tripled to over \$11  
 11 million in 2016 and 2017. PG&E's increased capital expenditures from 2016 consists  
 12 of increased activities of two types of work: (1) replacing CP system components,  
 13 such as anodes or rectifiers; and (2) installing new CP systems to address newly  
 14 constructed or modified pipelines, piping with new coating deterioration, areas with  
 15 inadequate CP, or areas where existing assets will not be sufficient to raise CP to the  
 16 Enhanced CP Criteria.<sup>15</sup>

<sup>15</sup> PG&E 2019 GT&S Testimony, p. 8-48.

1           ORA does not oppose with PG&E’s 2019 capital expenditures as their forecast  
 2 is consistent with the most recent two years of recorded expenditures as depicted in  
 3 Figure 8-8.

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6 **VIII. DISCUSSION/ANALYSIS OF ATMOSPHERIC CORROSION**

7           Atmospheric corrosion can occur on exposed transmission pipes, which cannot  
 8 be protected by cathodic protection as they are not in contact with soil. PG&E  
 9 mitigates the threat of atmospheric corrosion through the application, inspection, and  
 10 maintenance of coating systems.

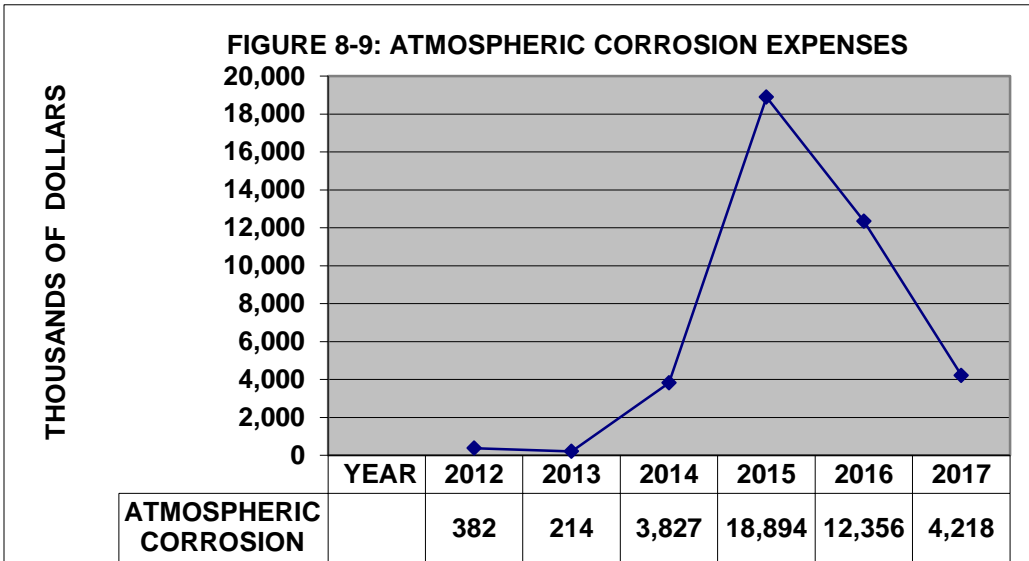
11

12 **A. Expenses**

13 PG&E is forecasting \$11.50 million in atmospheric corrosion expense in 2019.<sup>16</sup>  
 14 Figure 8-9 shows the historical recorded expenses. PG&E spent less than \$4.2 million  
 15 annually in atmospheric corrosion except for years 2015 and 2016 as shown in Figure  
 16 8-9, and PG&E actual expenses have been steadily decreasing since the peak in 2015.

<sup>16</sup> PG&E 2019 GT&S Testimony, p. 8-55.

1 PG&E’s 2019 forecast of \$11.5 million represents a 7 percent reduction from 2016’s  
 2 actual expenditure, but a 174 percent increase above the actual expenditures in 2017.  
 3 The three-year (2015 through 2017) average of atmospheric corrosion expense is  
 4 \$11.80 million and this is close to PG&E’s 2019 proposed forecast. Based on this  
 5 analysis, ORA does not oppose PG&E’s 2019 forecast.  
 6

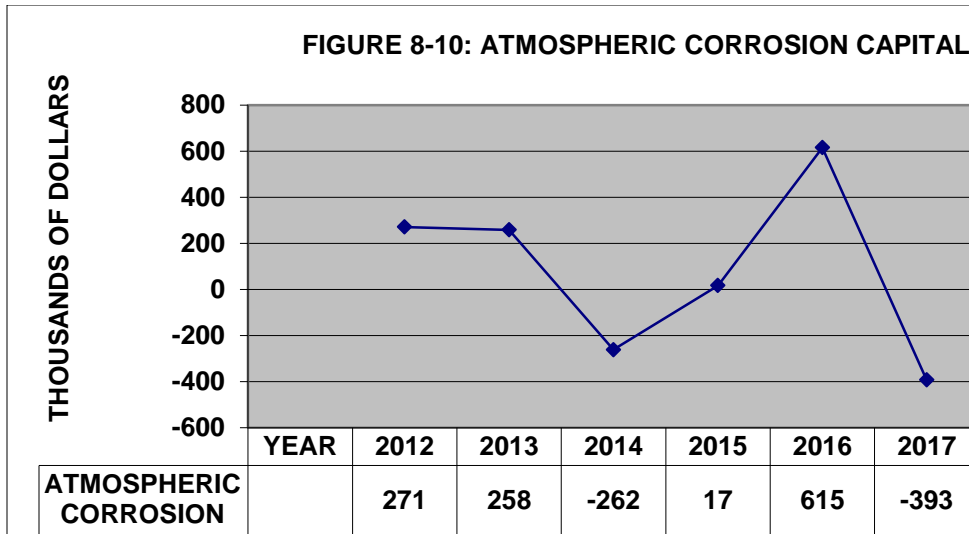


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9 **B. Capital**

10 PG&E forecasts \$2.80 million of capital expenditures in 2019, representing a  
 11 78 percent increase from 2016. PG&E did not incur any capital expenditures in 2017.  
 12 Figure 8-10 shows the historical recorded capital expenditures. PG&E spent \$0.27  
 13 million, \$0.26 million, \$0.17 million and \$0.62 million for 2012, 2013, 2015 and 2016  
 14 respectively but nothing was spent in 2014 and 2017 as depicted in Figure 8-10.  
 15 PG&E asserts that the 78 percent increase in capital expenditures from 2016 is as a  
 16 result of future plan to proactively re-coat aged coating systems. Given PG&E’s  
 17 explanation of why the future scope of work is different from the past, ORA does not  
 18 oppose PG&E’s forecast capital expenditures of \$2.80 million.





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2 **IX. DISCUSSION/ANALYSIS OF CLOSE INTERVAL SURVEY (CIS)**

3 PG&E uses CIS to identify the lowest levels of CP between test points,  
 4 providing increased confidence that the readings obtained at test stations reflect the  
 5 conditions along the entire system.<sup>17</sup>

6 **A. Expenses**

7 PG&E is forecasting \$5.50 million of CIS expenses in 2019, representing a 453  
 8 percent increase from 2017. PG&E asserts that the increased expenses are due to  
 9 higher unit costs associated with surveying Local Transmission lines in urban areas.<sup>18</sup>  
 10 Figure 8-11 shows the historical recorded expenses. The total expenses authorized for  
 11 years 2015 through 2017 was \$26.12 million but the actual amount PG&E spent was  
 12 \$4.33 million. This translates to \$21.79 million of the total authorized amount not  
 13 spent by PG&E for the period 2015 through 2017. Based on this analysis, ORA  
 14 recommends 2019 expenses of \$1.41 million. This amount is a three-year (2015

<sup>17</sup> PG&E 2019 GT&S Testimony, p. 8-58.

<sup>18</sup> PG&E 2019 GT&S Testimony, p. 8-59.

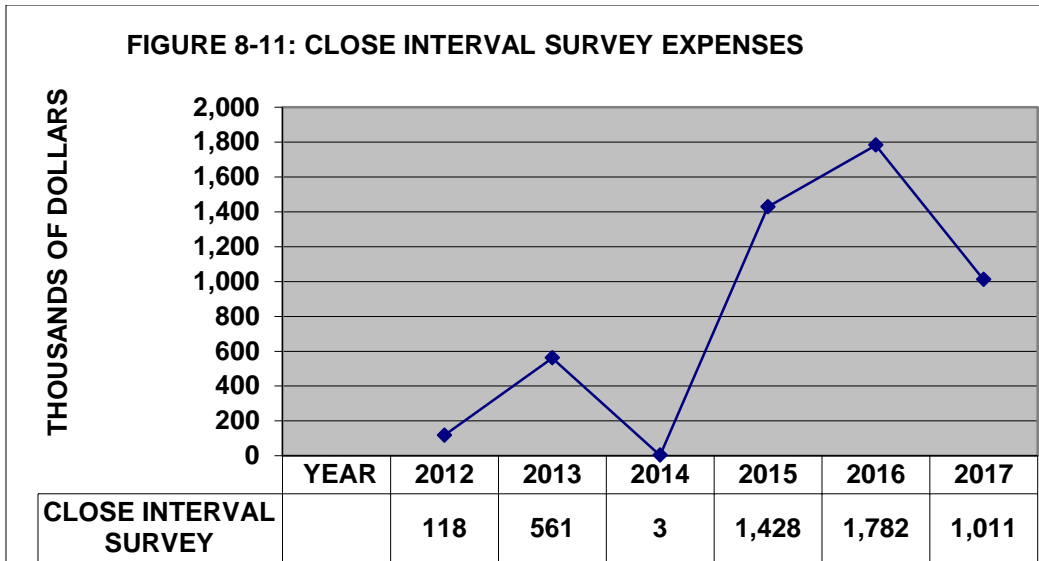
1 through 2017) average of actual CIS expenses, and which captures the increased work  
 2 performed by PG&E as compared to 2012-2014.

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**Table 8-4**  
**PG&E's CIS Expenses vs Authorized Amount<sup>19</sup>**  
**(In Thousands of Nominal Dollars)**

Year	Authorized Amount	Actual Amount Spent	Authorized minus Actual
2015	8,411	1,428	6,983
2016	8,625	1,782	6,843
2017	9,084	1,124	7,960
<b>TOTAL</b>	<b>26,120</b>	<b>4,334</b>	<b>21,786</b>

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<sup>19</sup> PG&E Response to ORA Oral002\_Q01Atch01.

1 **X. DISCUSSION/ANALYSIS OF INTERNAL CORROSION**

2 Corrosion is a time-dependent threat to the integrity of natural gas pipelines  
3 caused by the introduction of corrodents- such as water-into the metallic piping  
4 system. The concentration of gas constituents such as oxygen, hydrogen sulfide,  
5 carbon dioxide, microbes, and chloride can also influence the rate of internal  
6 corrosion.<sup>20</sup>

7 **A. Expenses**

8 PG&E is forecasting \$3.6 million of internal corrosion expense in 2019,  
9 representing a 94 percent increase from 2016.<sup>21</sup> Figure 8-12 shows the historical  
10 recorded expenses. The total expenses authorized for years 2015 through 2017 was  
11 \$24.50 million but the actual amount PG&E spent was \$4.29 million. This translates  
12 to \$20.21 million of the total authorized amount not spent by PG&E for the period  
13 2015 through 2017. See Table 8-5. Based on this analysis, ORA recommends 2019  
14 expenses of \$1.43 million. This amount is a three-year (2015 through 2017) average  
15 of actual Internal Corrosion expenses.

16 **Table 8-5**

17 **PG&E's Internal Corrosion Expenses vs Authorized Amount<sup>22</sup>**

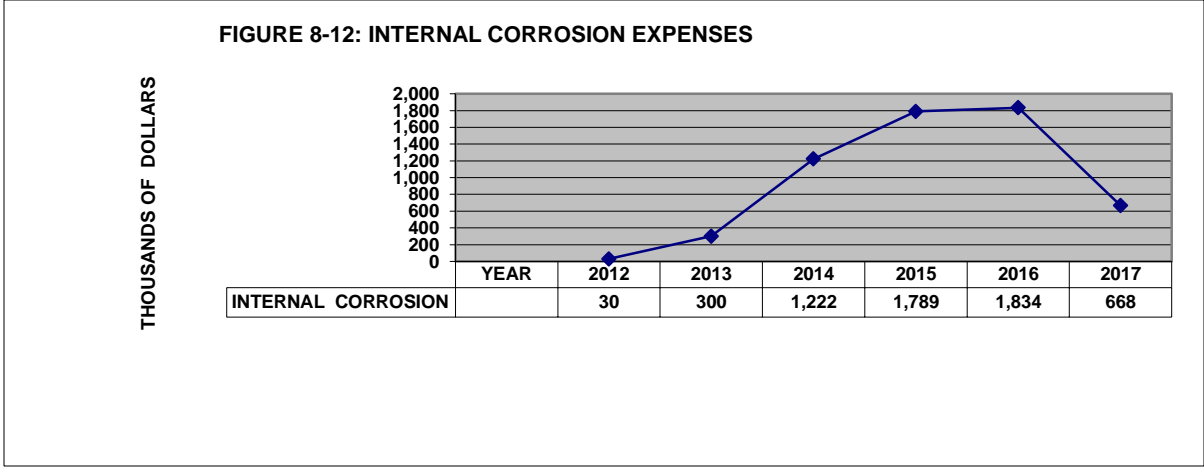
18 **(In Thousands of Nominal Dollars)**

<b>Year</b>	<b>Authorized Amount</b>	<b>Actual Amount Spent</b>	<b>Authorized minus Actual</b>
2015	\$7,890	\$1,789	\$6,101
2016	\$8,090	\$1,834	\$6,256
2017	\$8,521	\$668	\$7,853
<b>TOTAL</b>	<b>\$24,501</b>	<b>\$4,291</b>	<b>\$20,210</b>

<sup>20</sup> PG&E 2019 GT&S Testimony, p. 8-61.

<sup>21</sup> PG&E 2019 GT&S Testimony, p. 8-61.

<sup>22</sup> PG&E Response to ARA Oral002\_Q01Atch01.



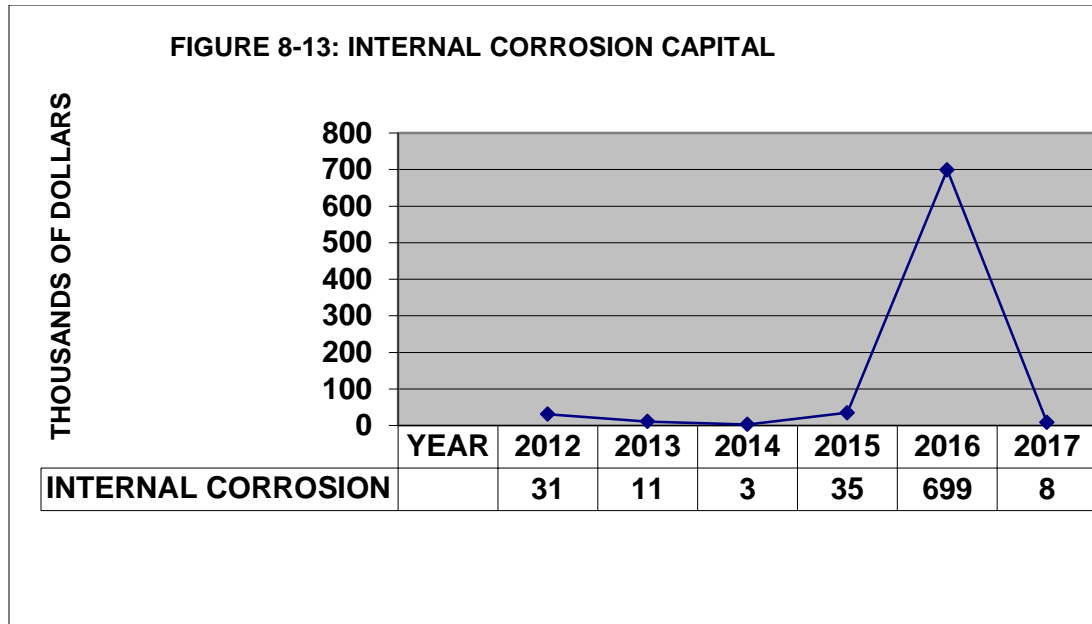
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**B. Capital**

PG&E is forecasting \$13 million of internal corrosion expense in 2019, representing a substantial increase from 2016.<sup>23</sup> Figure 8-13 shows the historical recorded capital expenditures. PG&E spent between \$11,000 and \$8,000 between 2012 and 2017, as depicted in Figure 8-13. PG&E asserts that the substantial increase in capital expenditures from 2016 is as a result of future plan to drips.<sup>24</sup> As this change is reflective of a new program not previously covered and is supported, ORA does not oppose PG&E’s 2019 proposed capital expenditures of \$13 million.

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<sup>23</sup> PG&E 2019 GT&S Testimony, p. 8-61.  
<sup>24</sup> PG&E 2019 GT&S Testimony, p. 8-62.



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2 **XI. DISCUSSION/ANALYSIS OF CORROSION SUPPORT**

3 Several levels of the organization support the 10 programs that comprise  
 4 PG&E’s Corrosion Control Program. Program managers assist in day-to-day  
 5 operations, including: contract development and sourcing; project management;  
 6 financial planning. Corrosion Specialists assist field corrosion mechanics. Data  
 7 analysts process, normalize, and quality check the data received from the field and  
 8 other organizations across PG&E.<sup>25</sup>

9 **A. Expenses**

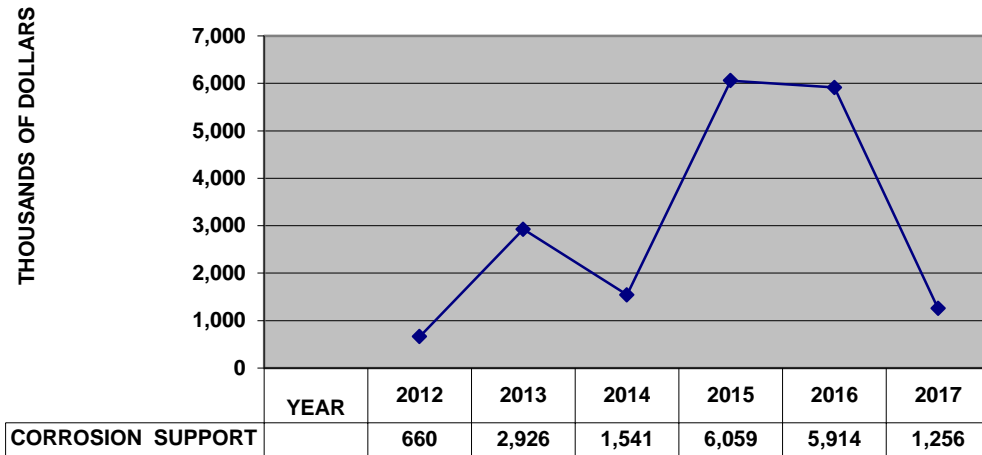
10 PG&E is forecasting \$2.6 million of Corrosion Support expenses in 2019,<sup>26</sup>  
 11 and Figure 8-14 shows the historical recorded expenses. ORA does not oppose  
 12 PG&E’s 2019 forecast of \$2.6 million for Corrosion Support expenses.

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<sup>25</sup> PG&E 2019 GT&S Testimony, p. 8-66.

<sup>26</sup> PG&E 2019 GT&S Testimony, p. 8-66.

**FIGURE 8-14: CORROSION SUPPORT EXPENSES**



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3 **XII. CONCLUSION**

4 ORA recommends the Commission adopt its 2019 forecasts. ORA has forecast  
5 2019 expenses for corrosion control of \$25.7 million, and \$59 million for capital  
6 expenditures.

1 **WITNESS QUALIFICATIONS**

2 My name is Godson Ezekwo. My business address is 505 Van Ness Avenue,  
3 San Francisco, California. I am employed by the California Public Utilities  
4 Commission as a Utilities Engineer in the Office of Ratepayer Advocates Energy  
5 Safety and Infrastructure Branch.

6 I received a Bachelor of Science degree in Chemical Engineering from  
7 Cleveland State University, and a Master of Science degree in Chemical Engineering  
8 from Columbia University in the City of New York. I also received a Master of  
9 Business Administration degree in Project Management and a Master of Business  
10 Administration degree in General Management from Golden Gate University. I am a  
11 certified pipeline safety inspector (certified by the Department of Transportation), and  
12 a registered Professional Engineer in Chemical Engineering in the State of California.

13 Before joining the Commission in 1987, I was employed as a process engineer  
14 by Bechtel Corporation, San Francisco. I have twelve years of experience in process  
15 design, and startup assistance for petroleum refining, nuclear waste processing, and  
16 natural gas utilities maintenance and operations.

17 Since joining the Commission in 1987, I have performed economic and  
18 technical analysis on complex issues relating to natural gas and electric plants. I have  
19 been responsible for the administration of General Orders 112D, 128 and 95. I have  
20 sponsored testimony on behalf of ORA in San Diego Gas & Electric (SDG&E),  
21 Southern California Edison (Edison), Pacific Gas and Electric (PG&E), and  
22 Southwest Gas (SWG) rate proceedings. Additionally, I was a project manager for  
23 the 1995 and 1996 Edison ECAC proceedings. I also sponsored testimony on  
24 Edison's CTC, SDG&E Performance Indicators in PBR proceedings, SDG&E Capital  
25 Additions, SDG&E Generation Divestiture, and SWG and Sierra Pacific General Rate  
26 Cases (GRCs).

27 This completes my prepared testimony.